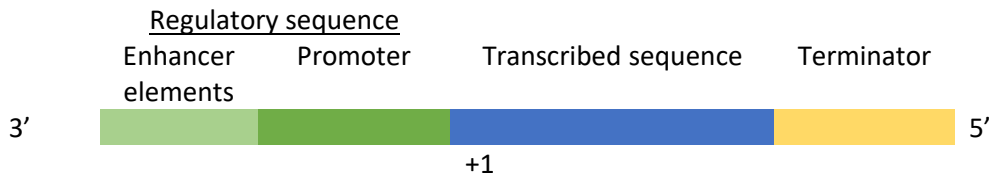


## Review: Parts of a Gene

Genes are sets of instructions that tell cells how to make proteins. They include information on which amino acids should be linked together in what order as well as information on how much protein to make and when to make the protein. It is important to understand the parts of a gene to understand how it is used.

Below is a picture of a gene. This picture represents DNA. The regulatory sequence is composed of the promoter where transcription can be initiated as well as the enhancer elements that alter how likely the gene will be transcribed. The transcribed sequence will be used to recruit RNA nucleotides to form a new RNA transcript. The first base of the DNA that is complementary to the RNA is called the +1 nucleotide and it is the start of the transcribed sequence. The terminator helps termination to end.



All genes have this basic set-up. For operons such as the lactose and tryptophan operons, multiple genes interact together. The image below shows where components of the lac operon are compared to the basic gene anatomy figure above.

